

FIG. 1

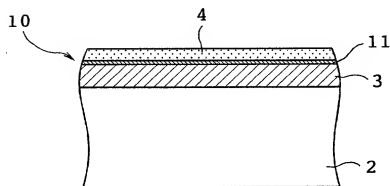


FIG. 2

| | | COMPOSITION OF BEARING (VOLUME %) | | | | | | | | | | | | | |
|---------------------|----|-----------------------------------|-----|------------------|----|---------------------|-----|------------|-----|------------------|----|----------------|----|--------------------------------|--|
| | | BONDING LAYER | | | | RESIN SURFACE LAYER | | | | | | | | | |
| | | BEARING ALLOY | | BASE RESIN | | SOLID LUBRICANT | | BASE RESIN | | SOLID LUBRICANT | | OTHER ADDITIVE | | | |
| | | PAI | PI | MoS ₂ | Gr | PTFE | PAI | EP | PBI | MoS ₂ | Gr | PTFE | Cu | Si ₃ N ₄ | |
| EXAMPLE | 1 | Cu | | | | | | | 20 | 80 | | | | | |
| | 2 | Cu | | | | | | | 60 | 40 | | | | | |
| | 3 | Cu | | | | | | | 30 | 70 | | | | | |
| | 4 | Cu | | | | | | | 57 | 40 | | | 3 | | |
| | 5 | Cu | | | | | | | 54 | 40 | | | 3 | 3 | |
| | 6 | Cu | | | | | | | 39 | 40 | | 20 | 1 | | |
| | 7 | Cu | 100 | | | | | | 60 | 40 | | | | | |
| | 8 | Cu | 100 | | | | | | 30 | 70 | | | | | |
| | 9 | Cu | | 100 | | | | | 39 | 40 | | 20 | 1 | | |
| | 10 | Cu | 60 | | 40 | | | | 60 | 40 | | | | | |
| | 11 | Cu | 60 | | | 40 | | | 60 | 40 | | | | | |
| COMPARATIVE EXAMPLE | 12 | Cu | 60 | | | 40 | | | 80 | 20 | | | | | |
| | 13 | Cu | | | | | 100 | | | | | | | | |
| | 14 | Cu | | | | | | 100 | | | | | | | |
| | 15 | Cu | | | | | 60 | | | 40 | | | | | |
| | 16 | Cu | | | | | 30 | | | 70 | | | | | |
| | 17 | Cu | | | | | 57 | | | 40 | | | 3 | | |
| | 18 | Cu | | | | | 57 | | | | 40 | | 3 | | |
| | 19 | Cu | | | | | 54 | | | 40 | | | 3 | 3 | |
| | 20 | Cu | | | | | 39 | | | 40 | | 20 | 1 | | |
| | 21 | Cu | | | | | | | 100 | | | | | | |

FIG. 3A

| | | RESULTS OF TEST | | | |
|---------------------|----|-------------------------|----------------------------------|--------------------|---------------------------------------|
| | | COEFFICIENT OF FRICTION | AMOUNT OF WEAR (μm) | SEIZURE LOAD (MPa) | VOLUMETRIC DECREASE (mm^3) |
| EXAMPLE | 1 | 0.03 | 15 | 21 | 5.30 |
| | 2 | 0.05 | 8 | 24 | 3.46 |
| | 3 | 0.03 | 9 | 27 | 4.80 |
| | 4 | 0.04 | 4 | 27 | 3.54 |
| | 5 | 0.04 | 1 | 30 | 4.56 |
| | 6 | 0.03 | 4 | 30 | 4.29 |
| | 7 | 0.05 | 8 | 27 | 2.74 |
| | 8 | 0.03 | 9 | 27 | 4.26 |
| | 9 | 0.03 | 4 | 30 | 3.65 |
| | 10 | 0.05 | 8 | 33 | 1.96 |
| | 11 | 0.05 | 7 | 33 | 2.08 |
| | 12 | 0.05 | 8 | 33 | 2.76 |
| COMPARATIVE EXAMPLE | 13 | 0.10 | 12 | 15 | 5.76 |
| | 14 | 0.10 | 13 | 15 | 5.69 |
| | 15 | 0.05 | 17 | 21 | 3.56 |
| | 16 | 0.03 | 20 | 24 | 6.00 |
| | 17 | 0.05 | 6 | 24 | 4.21 |
| | 18 | 0.05 | 6 | 24 | 4.76 |
| | 19 | 0.04 | 2 | 24 | 5.90 |
| | 20 | 0.04 | 7 | 27 | 5.01 |
| | 21 | 0.12 | 10 | 15 | 4.89 |

FIG. 3B